Note:

(1) Marks will be awarded to questions with correct answers only.

(2) Mind steps while solving the questions.

(3) Read the questions properly.

(4) Neatness appreciated.

Name: **Date:** **Duration: 60 minutes**

Areas of Improvement:

Maximum Marks	**21**
Marks Obtained	
%	

Note: Students to solve questions unattended and with incorrect answers.

Parent Signature	**Parent Signature**

Section A

[1 x 4 = 4]

1. The cube of a negative number is

(a) negative (b) positive (c) negative or positive (d) None of these.

2. The cube root of $1\frac{27}{216}$ is

(a) $\frac{6}{7}$ (b) $\frac{-7}{6}$ (c) $1\frac{1}{6}$ (d) $\frac{-6}{7}$

3. The smallest number by which 686 should be divided to make it a perfect cube is

(a) 1 (b) 2 (c) 3 (d) 4

4. The volume of the cube is 729 m^3. The length of its side is

(a) 3 m (b) 6 m (c) 9 m (d) 27 m

Section B

[2 x 4 = 8]

5. 363 × 81 is a perfect cube. State whether the statement is true or false.

6. The least number to be multiplied by 9 to make it a perfect cube is _____.

7. Write a Pythagorean triplet whose smallest number is 6.

8. Evaluate the following: $\sqrt[3]{27} + \sqrt[3]{0.008} + \sqrt[3]{0.064}$

Section C

[3 x 3 = 9]

9. Multiply 6561 by the smallest number so that the product is a perfect cube. Also, find the cube root of the product.

10. Three numbers are in the ratio 3: 4: 5. If their product is 480, find the numbers.

11. The difference of two perfect cubes is 189. If the cube root of the smaller of the two numbers is 3, find the cube root of the larger number.

Please turn over the page

Section D [optional]

[Attempt any one question only]

12. Evaluate the following:

(i) $\{(5^2 + 12^2)^{1/2}\}^3$

(ii) $\{(6^2 + 8^2)^{1/2}\}^3$

13. In a Maths lab there are some cubes and cuboids of the following measurements:

(i) One cube of side 4 cm

(ii) one cube of side 6 cm

(iii) 3 cuboids each of dimensions 4 cm × 4 cm × 6 cm and 3 cuboids each of the dimensions 4 cm × 6 cm × 6 cm.

A student wants to arrange these cubes and cuboids in the form of a big cube. Is it possible for him/her to arrange them in the form of a big cube? If yes, then find the length of a side of the new cube so formed.